

Agriculture, Food, and Natural Resources

Do you collect rocks?

Do you have a green thumb?

Do you enjoy working with animals?

Are you interested in protecting the environment?

Do you enjoy working outdoors?

Are science classes your favorite?

If you chose to work in occupations in the Agriculture, Food, and Natural Resources cluster, you could raise plants and animals as sources for food and shelter. Or you could focus on selling and making products from plants and animals, including food, lumber, and fabrics. You might also advise farmers and ranchers, or work to conserve natural resources and protect the environment.





National Employment Outlook

The long-term trend for farmers, ranchers and agricultural managers to consolidate farms into fewer and larger ones is expected to continue over the 2004–14 period. This will result in a continued decline in employment of self-employed farmers and ranchers and slower-than-average growth in employment of salaried agricultural managers. Overall employment of agricultural workers is projected to decline slightly over the 2004–14 period, primarily reflecting the outlook for farmworkers in crops, nurseries, and greenhouses workers. Continued consolidation of farms and technological advancements in farm equipment make farmworkers more efficient causing fewer of them to be hired.

Employment of agricultural and food scientists, such as soil and plant scientists, is expected to grow about as fast as average for all occupations through 2014. Agricultural research is necessary,

to maintain an edge on insects and diseases, pesticides and to continue improvement in soil fertility and water quality, resulting in job opportunities in biotechnology. The best opportunities will be in specific segments of the food-processing industry and in agricultural biotechnology, specifically in scientific research and development services.

Employment of water and wastewater treatment plant and system operators is expected to grow about as fast as average for all occupations through the year 2014. Job prospects will be good for qualified individuals because the number of applicants in this field is normally low, due primarily to the unclean and physically demanding nature of the work. However, the increasing population and the growth of the economy are expected to boost demand for essential water and wastewater treatment services.

Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
 Soil and Plant Scientists	Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants, their growth in soils, and control of pests; or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth.	Entry: \$19.30 Average: \$29.58 Experienced: \$34.72	
 Farm, Ranch, and Other Agricultural Managers	On a paid basis, manage farms, ranches, agricultural operations, greenhouses, nurseries, timber tracts, cotton gins, packing houses, or other agricultural establishments for employers.	Entry: \$17.11 Average: \$30.21 Experienced: \$36.77	



Occupations Guide

Occupation

Description

Hourly Wages

Outlook

Bachelor's Degree



**First-Line Supervisors/
Managers of Farming,
Fishing and Forestry
Workers**

Directly supervise and coordinate the activities of agricultural, forestry, aquacultural, and related workers.

Entry: \$15.06
Average: \$22.11
Experienced: \$25.64



Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)

**First-Line Supervisors/
Managers of
Construction Trades and
Extraction Workers**

Directly supervise and coordinate activities of construction or extraction workers.

Entry: \$18.07
Average: \$26.98
Experienced: \$31.44



**Purchasing Agents and
Buyers, Farm Products**

Purchase farm products either for further processing or resale.

Entry: \$15.98
Average: \$24.70
Experienced: \$29.05



**Forest and Conservation
Technicians**

Compile data pertaining to size, content, condition, and other characteristics of forest tracts, under direction of foresters; train and lead forest workers in forest propagation, fire prevention and suppression.

Entry: \$12.22
Average: \$16.53
Experienced: \$18.69



**Agricultural and Food
Science Technicians**

Work with agricultural scientists in food, fiber, and animal research, production, and processing; assist with animal breeding and nutrition work; under supervision, conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects.

Entry: \$11.51
Average: \$19.47
Experienced: \$23.46



**Water and Liquid Waste
Treatment Plant and
System**

Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or liquid waste.

Entry: \$15.98
Average: \$24.70
Experienced: \$29.05



**First-Line Supervisors/
Managers of
Landscaping, Lawn
Services, and
Groundskeeping Workers**

Plan, organize, direct, or coordinate activities of workers engaged in landscaping or groundskeeping activities, such as planting and maintaining ornamental trees, shrubs, flowers, and lawns, and applying fertilizers, pesticides, and other chemicals, according to contract specifications.

Entry: \$11.00
Average: \$17.93
Experienced: \$21.40












High School Diploma or equivalent (Moderate-term on-the-job training)

**Sales Representatives,
Wholesale and
Manufacturing**

Sell goods for wholesalers or manufacturers. Where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, at least two years of post-secondary education may be required.

Entry: \$16.55
Average: \$30.45
Experienced: \$37.40



Occupation	Description	Hourly Wages	Outlook
Less than High School Diploma (Short-term on-the-job training)			
Agricultural Equipment Operators	Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. May operate stationary equipment to perform post-harvest tasks, such as husking, shelling, threshing, and ginning.	Entry: \$10.02 Average: \$12.34 Experienced: \$13.50	
Refuse and Recyclable Material Collectors	Collect and dump refuse or recyclable materials from containers into truck. May drive truck.	Entry: \$8.37 Average: \$12.82 Experienced: \$15.05	
Tree Trimmers and Pruners	Cut away dead or excess branches from trees or shrubs to maintain right-of-way for roads, sidewalks, or utilities, or to improve appearance, health, and value of tree. Prune or treat trees or shrubs using handsaws, pruning hooks, shears, and clippers.	Entry: \$8.24 Average: \$14.04 Experienced: \$16.94	
 Farmworkers, Farm and Ranch Animals	Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey.	Entry: \$7.48 Average: \$10.72 Experienced: \$12.34	
 Landscaping and Groundskeeping Workers	Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, and sprinkler installation.	Entry: \$7.42 Average: \$10.76 Experienced: \$12.45	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives.	Entry: \$7.00 Average: \$9.72 Experienced: \$11.07	
Nonfarm Animal Caretakers	Feed, water, groom, bathe, exercise, or otherwise care for pets and other nonfarm animals, such as dogs, cats, ornamental fish or birds, zoo animals, and mice.	Entry: \$6.38 Average: \$9.21 Experienced: \$10.63	

Architecture and Construction

Do you often admire the buildings around you?
Do you like to work with tools, objects, & numbers?
Do you like to create models or make designs?
Do you like to work both alone and with others?

Do you like to work with your hands?
Can you visualize objects in your mind?
Do you like to use both mental and manual skills to solve problems?

If you work in occupations in the Architecture and Construction cluster, you would be responsible for buildings and other structures such as highways and bridges. You might make designs and plans for new structures. Or, you would use the plans to build new structures and manage construction workers. Another option would be to take care of, repair, and restore existing structures.

National Employment Outlook


Employment of drafters is expected to grow more slowly than the average for all occupations through 2014. Industrial growth and increasingly complex design problems associated with new products and manufacturing processes will increase the demand for drafting services. Drafters are beginning to break out of the traditional drafting role and do work traditionally performed by engineers and architects, thus also increasing demand for drafters.

Job opportunities for carpenters are expected to be excellent over the 2004-14 period, particularly for those with the most skills. Employment is expected to increase about as fast as average for all occupations through 2014. The need for carpenters is expected to grow as construction activity increases in response to demand for new housing, office and retail space, and for modernizing and expanding schools and industrial plants. The home remodeling market also will create a large demand for carpenters.












Opportunities for cement masons, concrete finishers, segmental pavers, and terrazzo workers are expected to be good, particularly for those with the most experience and skills. Employment for this group is expected to grow as fast as average for all occupations through 2014.

Job opportunities for drywall installers, ceiling tile installers, and tapers are expected to be good. Employment is expected to increase more slowly than average for all occupations over the 2004-14 period reflecting the number of new construction and remodeling projects. In addition to traditional interior work jobs, drywall workers will find opportunities in the installation of insulated exterior wall systems, which are becoming increasingly popular.

Employment of electricians is expected to increase as fast as average for all occupations through the year 2014. As the population and economy grow, more electricians will be needed to install and maintain electrical devices and wiring in homes, factories, offices, and other structures.










Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
Construction Managers	Plan, direct, coordinate, or budget, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation.	Entry: \$22.30 Average: \$36.55 Experienced: \$43.66	



Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
Cost Estimators	Coordinate disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural, wartime, or technological disasters or hostage situations.	Entry: \$15.40 Average: \$23.70 Experienced: \$27.85	
Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)			
Electrical Power-Line Installers and Repairers	Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers.	Entry: \$21.75 Average: \$25.30 Experienced: \$27.09	
Telecommunications Equipment Installers and Repair	Set-up, rearrange, or remove switching and dialing equipment used in central offices. Service or repair telephones and other communication equipment on customers' property. May install equipment in new locations or install wiring and telephone jacks in buildings under construction.	Entry: \$15.99 Average: \$22.22 Experienced: \$25.34	
Structural Iron and Steel Workers	Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings.	Entry: \$13.91 Average: \$20.10 Experienced: \$23.20	
 Electricians	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems.	Entry: \$13.69 Average: \$20.46 Experienced: \$23.85	
Mechanical Drafters	Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.	Entry: \$13.40 Average: \$19.02 Experienced: \$21.83	
Brickmasons and Blockmasons	Lay building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, to construct or repair walls, partitions, arches, sewers, and other structures.	Entry: \$13.06 Average: \$18.74 Experienced: \$21.59	
 Plumbers, Pipefitters, and Steamfitters	Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems.	Entry: \$12.98 Average: \$21.60 Experienced: \$25.91	
Telecommunications Line Installers and Repairers	String and repair telephone and television cable, including fiber optics and other equipment for transmitting messages or television programming.	Entry: \$12.70 Average: \$18.24 Experienced: \$21.02	









Occupations Guide





Occupation	Description	Hourly Wages	Outlook
Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)			
Carpenters	Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors.	Entry: \$11.55 Average: \$16.69 Experienced: \$19.26	
Cement Masons and Concrete Finishers	Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; use saws to cut expansion joints.	Entry: \$11.01 Average: \$15.59 Experienced: \$17.88	
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.	Entry: \$10.35 Average: \$17.03 Experienced: \$20.37	
Maintenance and Repair Workers, General	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair.	Entry: \$10.26 Average: \$15.55 Experienced: \$18.20	
Cabinetmakers and Bench Carpenters	Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products.	Entry: \$9.38 Average: \$13.13 Experienced: \$15.00	
High School Diploma or equivalent (Moderate-term on-the-job training)			
Operating Engineers and Other Construction Equipment	Operate one or several types of power construction equipment, such as motor graders, bulldozers, cranes, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement.	Entry: \$13.14 Average: \$17.73 Experienced: \$20.02	
Highway Maintenance Workers	Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences.	Entry: \$13.12 Average: \$16.28 Experienced: \$17.86	
Drywall and Ceiling Tile Installers	Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality.	Entry: \$12.04 Average: \$18.53 Experienced: \$21.78	
Carpet Installers	Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials.	Entry: \$11.95 Average: \$16.37 Experienced: \$18.58	





Occupation	Description	Hourly Wages	Outlook
High School Diploma or equivalent (Moderate-term on-the-job training)			
Paving, Surfacing, and Tamping Equipment Operators	Operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials.	Entry: \$11.70 Average: \$16.96 Experienced: \$19.60	
Pipelayers	Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints.	Entry: \$11.47 Average: \$16.20 Experienced: \$18.56	
Painters, Construction and Maintenance	Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns.	Entry: \$11.14 Average: \$16.37 Experienced: \$18.99	
Excavating and Loading Machine and Dragline Operators	Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials.	Entry: \$11.12 Average: \$16.14 Experienced: \$18.66	
Fence Erectors	Erect and repair metal and wooden fences and fence gates around highways, industrial establishments, residences, or farms, using hand and power tools.	Entry: \$10.04 Average: \$12.30 Experienced: \$13.43	
Construction Laborers	Perform tasks involving physical labor at building, highway, and heavy construction projects, tunnel and shaft excavations, and demolition sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, clean up rubble and debris, and remove asbestos, lead, and other hazardous waste materials.	Entry: \$9.40 Average: \$14.47 Experienced: \$17.00	
Less than High School Diploma (Short-term on-the-job training)			
Helpers--Carpenters	Help carpenters by performing duties of lesser skill.	Entry: \$9.30 Average: \$11.12 Experienced: \$12.04	
Helpers--Electricians	Help electricians by performing duties of lesser skill.	Entry: \$9.26 Average: \$12.10 Experienced: \$13.51	



Occupation	Description	Hourly Wages	Outlook
High School Diploma or equivalent (Moderate-term on-the-job training)			
Helpers--Installation, Maintenance, and Repair Workers	Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment.	Entry: \$8.36 Average: \$13.10 Experienced: \$15.47	
Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters	Help plumbers, pipefitters, steamfitters, or pipelayers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment.	Entry: \$7.17 Average: \$10.76 Experienced: \$12.55	

Arts, A/V Technology, and Communications

Do you like to perform in front of an audience?
Are you interested in working in the movies or television?
Do you like to work with technology?

Is artistic expression important to you?
Are you visually oriented?
Does computer animation interest you?
Are you active in school or community theatre?

If you are interested in working in this cluster, you have two avenues. One is to be the performer or artist. The other is to work behind the scenes to make the performance or publication happen. As a reporter, actor, or fine artist, you would use your creative talents. To assure that a concert or magazine is successful, you would use computers and sound equipment. The occupations in this cluster allow you to use your creativity, talent, and technical skills.

National Employment Outlook

Employment of graphic designers is expected to grow about as fast as average for all occupations through the year 2014, as demand for graphic design continues to increase from advertisers, publishers, and computer design firms. Demand for graphic designers should increase because of the rapidly expanding market for Web-based information and expansion of the video entertainment market, including television, movies, video, and made-for-Internet outlets.

Employment of announcers is projected to decline through 2014 because of the lack of growth in the number of new radio and television stations and the consolidation of existing stations. Competition for jobs as announcers will be keen because the broadcasting field attracts many more jobseekers than there are jobs. However, small radio stations are more inclined to hire beginners, but the pay is low. Applicants who have completed internships and those with related

work experience usually receive preference for available positions.

Employment of writers and editors is expected to grow about as fast as the average for all occupations through the year 2014. The outlook for most writing and editing jobs is expected to be competitive because many people with writing or journalism training are attracted to the occupation.












Employment of photographers is expected to increase about as fast as the average for all occupations through 2014. Demand for portrait photographers should increase as the population grows. Growth of Internet versions of magazines, journals, and newspapers will require increasing numbers of commercial photographers to provide digital images. The Internet also should make it easier for freelancers to market directly to their






customers, increasing opportunities for self-employment.

Employment of printing machine operators is expected to grow more slowly than average

through 2014 as the output of printed materials is expected to keep going up, but increasing automation of the printing industry and the outsourcing of production to foreign countries will moderate the increase.

Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
 Editors	Perform variety of editorial duties, such as laying out, indexing, and revising content of written materials, in preparation for final publication.	Entry: \$13.43 Average: \$19.94 Experienced: \$23.19	
Graphic Designers	Design or create graphics to meet a client's specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.	Entry: \$10.77 Average: \$16.08 Experienced: \$18.74	
 Writers and Authors	Originate and prepare written material, such as scripts, stories, advertisements, and other material.	Entry: \$10.08 Average: \$17.95 Experienced: \$21.90	
Radio and Television Announcers	Talk on radio or television. May interview guests, act as master of ceremonies, read news flashes, identify station by giving call letters, or announce song title and artist.	Entry: \$6.50 Average: \$11.91 Experienced: \$14.60	
Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)			
Job Printers	Set type according to copy; operate press to print job order; and read proof for errors and clarity of impression, and correct imperfections. Job printers are often found in small establishments where work combines several job skills.	Entry: \$10.82 Average: \$16.10 Experienced: \$18.73	
Prepress Technicians and Workers	Set up and prepare material for printing presses. Include prepress functions, such as compositing, typesetting, layout, paste-up, camera operating, scanning, film stripping, and photoengraving.	Entry: \$10.48 Average: \$15.69 Experienced: \$18.29	
 Photographers	Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints.	Entry: \$7.26 Average: \$10.89 Experienced: \$12.70	
High School Diploma or equivalent (Moderate-term on-the-job training)			
Printing Machine Operators	Set up or operate various types of printing machines, such as offset, letterset, intaglio, or gravure presses or screen printers to produce print on paper or other materials.	Entry: \$10.15 Average: \$15.17 Experienced: \$17.66	

Occupations Guide

Occupation	Description	Hourly Wages	Outlook
High School Diploma or equivalent (Moderate-term on-the-job training)			
Bindery Workers	Set up or operate binding machines that produce books and other printed materials.	Entry: \$9.32 Average: \$12.42 Experienced: \$13.98	
Less than High School Diploma (Short-term on-the-job training)			
Laborers and Freight, Stock, and Material Movers, Hand	Manually move freight, stock, or other materials or perform other unskilled general labor.	Entry: \$7.79 Average: \$11.21 Experienced: \$12.92	
Ushers, Lobby Attendants, and Ticket Takers	Assist patrons at entertainment events by performing duties, such as collecting admission tickets and passes from patrons, assisting in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones.	Entry: \$5.99 Average: \$6.80 Experienced: \$7.21	

Business, Management, and Administration

Do you enjoy working with other people?
Are you good at working with numbers?
Do you like to plan and organize activities?

Have you started your own business?
Do you keep your checkbook balanced?
Are you an officer of an organization?

If you are interested in the Business, Management, and Administration Cluster, there are many career options. You may provide the needed support to keep a business in operation. Or you might keep track of the expenses and income. You could manage the financial activities of a business. Another option is to be sure that a business has qualified employees who are trained to do their jobs. Or after years of education or experience, you might direct the operations of a business.

National Employment Outlook

Employment of top executives—including chief executives and general and operations managers—is expected to grow about as fast as average for all occupations through 2014. Top managers are essential to the success of any organization and their jobs are unlikely to be automated or to be eliminated through corporate restructuring.

Administrative services managers are projected to grow about as fast as the average for all occupations through 2014. Like persons seeking other managerial positions, applicants will face keen competition because there will be more

competent, experienced workers seeking jobs than there will be positions available.

Overall employment of human resources, training, and labor relations managers and specialists is expected to grow faster than the average for all occupations through 2014. Demand for human resources, training, and labor relations managers and specialists also are governed by the staffing needs for the firms for which they work.










Employment of management analysts is expected to grow faster than the average for all occupations through 2014, as industry













and government increasingly rely on outside expertise to improve the performance of their organizations.









Accountants and auditors are expected to grow faster than average for all occupations through the year 2014. An increase in the number of businesses, changing financial laws and regulations, and increased scrutiny of company finances will drive growth.









Keen competition likely will continue for entry-level public relations jobs, as the number of qualified applicants is expected to exceed the number of job openings. Employment is expected to grow faster than average for all occupations through 2014. The need for good public relations in an increasingly competitive business environment should spur demand for public relations specialists in organizations of all types and sizes.

Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
 Chief Executives	Determine and formulate policies and provide the overall direction of companies or private and public sector organizations within the guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.	Entry: \$24.72 Average: \$59.93 Experienced: \$77.53	
 General and Operations Managers	Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.	Entry: \$21.40 Average: \$41.88 Experienced: \$52.11	
Management Analysts	Conduct organizational studies and evaluations, design systems and procedures, conduct work simplifications and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively.	Entry: \$19.83 Average: \$31.03 Experienced: \$36.63	
Administrative Services Managers	Plan, direct, or coordinate supportive services of an organization, such as recordkeeping, mail distribution, telephone operator/receptionist, and other office support services. May oversee facilities planning and maintenance and custodial operations.	Entry: \$19.36 Average: \$33.25 Experienced: \$40.19	
 Accountants and Auditors	Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements. Install or advise on systems of recording costs or other financial and budgetary data.	Entry: \$16.99 Average: \$26.01 Experienced: \$30.53	
Operations Research Analysts	Formulate mathematical simulation models of management or operational problems for solution by use of algorithms on a computer or other method. May develop and supply optimal time, cost, or logistics networks for program evaluation and review or implementation.	Entry: \$16.53 Average: \$24.24 Experienced: \$28.08	






Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
Compensation, Benefits, and Job Analysis Specialists	Appraise automobile or other vehicle damage to determine cost of repair for insurance claim settlement and seek agreement with automotive repair shop on cost of repair. Prepare insurance forms to indicate repair cost or cost estimates and recommendations.	Entry: \$15.18 Average: \$22.46 Experienced: \$26.10	
 Employment, Recruitment, and Placement Specialists	Review settled insurance claims to determine that payments and settlements have been made in accordance with company practices and procedures, ensuring that adjusters have followed proper methods. Report overpayments, underpayments, and other irregularities. Confer with legal counsel on claims requiring litigation.	Entry: \$13.88 Average: \$21.10 Experienced: \$24.71	
 Public Relations Specialists	Engage in promoting or creating good will for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media. May prepare and arrange displays, and make speeches.	Entry: \$13.08 Average: \$21.88 Experienced: \$26.28	
Training and Development Specialists	Conduct training and development programs for employees.	Entry: \$13.08 Average: \$21.88 Experienced: \$26.28	
Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)			
First-Line Supervisors/Managers of Office and Administration	Supervise and coordinate the activities of clerical and administrative support workers.	Entry: \$13.62 Average: \$21.15 Experienced: \$24.91	
First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	Supervise work activities of cleaning personnel in hotels, hospitals, offices, and other establishments.	Entry: \$10.79 Average: \$15.70 Experienced: \$18.15	
Legal Secretaries	Perform secretarial duties utilizing legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.	Entry: \$10.43 Average: \$14.19 Experienced: \$16.07	
Medical Secretaries	Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.	Entry: \$9.51 Average: \$12.72 Experienced: \$14.32	



Occupation	Description	Hourly Wages	Outlook
High School Diploma or equivalent (Moderate-term on-the-job training)			
Executive Secretaries and Administrative Assistants	Provide administrative support by performing clerical and administrative tasks, such as preparing correspondence, filing, handling information requests, and scheduling appointments. Higher-level executive assistant and administrative assistants may also conduct independent projects and assume greater training responsibilities.	Entry: \$11.62 Average: \$16.13 Experienced: \$18.39	
Customer Service Representatives	Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.	Entry: \$9.27 Average: \$13.30 Experienced: \$15.33	
Bookkeeping, Accounting, and Auditing Clerks	Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records.	Entry: \$9.08 Average: \$13.52 Experienced: \$15.74	
Word Processors and Typists	Use word processor/computer or typewriter to type letters, reports, forms, or other material from rough draft, corrected copy, or voice recording.	Entry: \$8.96 Average: \$12.80 Experienced: \$14.71	
Secretaries, Except Legal, Medical, and Executive	Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers.	Entry: \$8.64 Average: \$12.25 Experienced: \$14.06	
Tax Preparers	Prepare tax returns for individuals or small businesses but do not have the background or responsibilities of an accredited or certified public accountant.	Entry: \$8.54 Average: \$12.55 Experienced: \$14.55	
Data Entry Keyers	Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing.	Entry: \$7.84 Average: \$10.93 Experienced: \$12.46	
Less than High School Diploma (Short-term on-the-job training)			
Human Resources Assistants, Except Payroll and Timekeeping	Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, and date of and reason for termination. Compile and type reports from employment records.	Entry: \$11.42 Average: \$15.76 Experienced: \$17.94	

Occupation	Description	Hourly Wages	Outlook
Less than High School Diploma (Short-term on-the-job training)			
Payroll and Timekeeping Clerks	Compile information and records to draw up purchase orders for procurement of materials and services.	Entry: \$10.75 Average: \$14.36 Experienced: \$16.17	
Billing and Posting Clerks and Machine Operators	Compile, compute, and record billing, accounting, statistical, and other numerical data for billing purposes. Prepare billing invoices for services rendered or for delivery or shipment of goods.	Entry: \$10.15 Average: \$13.32 Experienced: \$14.90	
Shipping, Receiving, and Traffic Clerks	Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material; and arranging for the transportation of products.	Entry: \$9.36 Average: \$13.36 Experienced: \$15.36	
Interviewers, Except Eligibility and Loan	Interview persons by telephone, mail, in person, or by other means for the purpose of completing forms, applications, or questionnaires. Ask specific questions, record answers, and assist persons with completing form. May sort, classify, and file forms.	Entry: \$9.21 Average: \$12.16 Experienced: \$13.64	
Order Clerks	Receive and process incoming orders for materials, merchandise, classified ads, or services such as repairs, installations, or rental of facilities.	Entry: \$9.06 Average: \$14.20 Experienced: \$16.77	
Mail Clerks and Mail Machine Operators, Except Postal Service	Prepare incoming and outgoing mail for distribution. Use hand or mail handling machines to time stamp, open, read, sort, and route incoming mail; and address, seal, stamp, fold, stuff, and affix postage to outgoing mail or packages.	Entry: \$8.45 Average: \$11.14 Experienced: \$12.49	
Switchboard Operators, Including Answering Service	Operate telephone business systems equipment or switchboards to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages.	Entry: \$8.43 Average: \$10.76 Experienced: \$11.93	
Office Clerks, General	Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring limited knowledge of office management systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of answering telephones, bookkeeping, typing or word processing, stenography, office machine operation, and filing.	Entry: \$7.79 Average: \$11.37 Experienced: \$13.16	



Occupation	Description	Hourly Wages	Outlook
Less than High School Diploma (Short-term on-the-job training)			
Receptionists and Information Clerks	Answer inquiries and obtain information for general public, customers, visitors, and other interested parties. Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization.	Entry: \$7.72 Average: \$10.70 Experienced: \$12.19	
Office Machine Operators, Except Computer	Operate one or more of a variety of office machines, such as photocopying, photographic, and duplicating machines, or any other office machines except computers.	Entry: \$7.68 Average: \$11.05 Experienced: \$12.74	
Couriers and Messengers	Pick up and carry messages, documents, packages, and other items between offices or departments within an establishment or to other business concerns, traveling by foot, bicycle, motorcycle, automobile, or public conveyance.	Entry: \$7.47 Average: \$9.76 Experienced: \$10.91	
File Clerks	File correspondence, cards, invoices, receipts, and other records in alphabetical or numerical order or according to the filing system used. Locate and remove material from file when requested.	Entry: \$7.46 Average: \$10.43 Experienced: \$11.91	
Stock Clerks and Order Fillers	Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders.	Entry: \$7.22 Average: \$10.32 Experienced: \$11.86	

Education and Training

Are you patient?

Have you coached sports activities?

Do you like to speak in front of groups?

Do you enjoy teaching games to children?

Are you outgoing?

Do you like being in school?

In the Education and Training cluster, you would have the opportunity to guide and train young people. As a teacher, you could influence young lives. In addition, you could support the work of the classroom teacher as a counselor, librarian, or principal. If you are interested in working with adults, you could provide training to employees in a business. Each of these settings provides you with the chance to help people learn and improve their lives.

National Employment Outlook

Employment of education administrators is projected to grow as fast as the average for all occupations through 2014. As education and

training take on greater importance in everyone's lives, the need for people to administer education programs will grow.



Occupations Guide










Overall employment of counselors is expected to grow faster than the average for all occupations through 2014. Employment is expected to grow with increases in student enrollments at postsecondary schools and colleges and as more States require elementary schools to employ counselors. Demand for vocational or career counselors should grow as multiple job and career changes become common for workers and as workers become increasingly aware of the counselors' services.

Through 2014, overall student enrollments in elementary, middle, and secondary schools—a key factor in the demand for teachers—are expected to rise more slowly than in the past as children of the baby boom generation leave the school system. This will cause employment to grow as fast as the average for teachers from





kindergarten through the secondary grades.

Over the next decade, instructional coordinators will be instrumental in developing new curricula to meet the demands of a changing society, training the teacher workforce, and increasing the emphasis on lifelong learning and on programs for students with special needs. Employment is expected to grow much faster than the average for all occupations through the year 2014.

Employment of library assistants is expected to grow as fast as the average for all occupations through 2014. Efforts to contain costs in local governments and academic institutions of all types may result in more hiring of library support staff than librarians and library assistants taking on more responsibility.

Occupation	Description	Hourly Wages	Outlook
Master's Degree or higher			
 Education Administrators, Postsecondary	Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges.	Entry: \$18.27 Average: \$32.19 Experienced: \$39.16	
Bachelor's Degree			
 Instructional Coordinators	Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses.	Entry: \$15.95 Average: \$23.55 Experienced: \$27.34	
 Educational, Vocational, and School Counselors	Counsel individuals and provide group educational and vocational guidance services.	Entry: \$13.49 Average: \$19.63 Experienced: \$22.70	
 Librarians	Administer libraries and perform related library services. Work in a variety of settings, including public libraries, schools, colleges and universities, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers.	Entry: \$13.03 Average: \$20.40 Experienced: \$24.09	
Education Administrators, Preschool and Child Care	Plan, direct, or coordinate the academic and nonacademic activities of preschool and child care centers or programs.	Entry: \$11.67 Average: \$16.92 Experienced: \$19.55	



Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
Preschool Teachers, Except Special Education	Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification.	Entry: \$6.85 Average: \$10.06 Experienced: \$11.67	
Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)			
Fitness Trainers and Aerobics Instructors	Instruct or coach groups or individuals in exercise activities and the fundamentals of sports. Demonstrate techniques and methods of participation. Observe participants and inform them of corrective measures necessary to improve their skills.	Entry: \$6.43 Average: \$10.91 Experienced: \$13.15	
Less than High School Diploma (Short-term on-the-job training)			
Library Technicians	Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelf books; remove or repair damaged books; register patrons; check materials in and out of the circulation process. Replace materials in shelving area (stacks) or files.	Entry: \$7.28 Average: \$10.65 Experienced: \$12.34	
Library Assistants, Clerical	Compile records, sort and shelf books, and issue and receive library materials such as pictures, cards, slides and microfilm. Locate library materials for loan and replace material in shelving area, stacks, or files according to identification number and title. Register patrons to permit them to borrow books, periodicals, and other library materials.	Entry: \$6.68 Average: \$9.46 Experienced: \$10.84	

Finance and Insurance

Are you the treasurer of a club or organization?
Do you enjoy working with numbers?
Do you balance your checkbook?

Are you interested in the stock market?
Do you like to operate calculators?
Are you good at following detailed work plans?

In the occupations in the Finance cluster, you would keep track of money. You might provide financial services to a business or individual. Your work could include maintaining records or giving advice to business executives on how to operate their business. You could work in financial planning, banking, or insurance.

National Employment Outlook

Employment of financial managers is expected to grow about as fast as average for all occupations through 2014. The increasing need for financial expertise as a result of regulatory reforms and the

expansion of the economy will drive job growth over the next decade and will spur demand for financial managers.



Occupations Guide

As long as more insurance policies are being sold to accommodate a growing population, there will be a need for adjusters, appraisers, examiners, and investigators. Further, as the elderly population increases, there will be a greater need for health care, resulting in more health insurance claims. Employment of claims adjusters, appraisers, examiners, and investigators is expected to grow about as fast as average for all occupations over the 2004–14 period.





Overall employment of financial analysts and personal financial advisors is expected to increase faster than average for all occupations through 2014, resulting from increased investment by businesses. Also individuals are better educated, wealthier and living longer which will require more financial planning.

Actuaries are expected to grow faster than average for all occupations through 2014. The insurance industry should ensure the creation of new actuary jobs thereby making employment opportunities good for those who qualify.

Employment of market and survey researchers is expected to grow faster than average for all occupations through 2014. Demand for market research analysts should be strong because of an increasingly competitive economy, expansion of markets, and consumers becoming more informed.











Employment of securities, commodities, and financial services sales agents is expected to grow about as fast as average for all occupations through 2014. As people's incomes continue to climb, they will increasingly seek the advice and services of securities, commodities, and financial services sales agents to realize their financial goals.

The workload for collectors is expected to continue to increase as they seek to collect old and recent debts. Also, as more companies become involved in lending money and issuing their own credit cards, they will likely have increased debt levels and will need to hire collectors. Thus the employment of bill and account collectors is expected to grow faster than average.

Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
Financial Managers	Plan, direct, and coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.	Entry: \$24.79 Average: \$42.58 Experienced: \$51.48	
Actuaries	Analyze statistical data, such as mortality, accident, sickness, disability, and retirement rates and construct probability tables to forecast risk and liability for payment of future benefits. May ascertain premium rates required and cash reserves necessary to ensure payment of future benefits.	Entry: \$24.79 Average: \$42.58 Experienced: \$51.48	
Financial Analysts	Conduct quantitative analyses of information affecting investment programs of public or private institutions.	Entry: \$18.23 Average: \$28.85 Experienced: \$34.14	
Insurance Underwriters	Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications.	Entry: \$15.59 Average: \$23.63 Experienced: \$27.65	










Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
Financial Examiners	Enforce or ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions.	Entry: \$15.57 Average: \$27.28 Experienced: \$33.14	
Market Research Analysts	Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May use survey results to create a marketing campaign based on regional preferences and buying habits.	Entry: \$14.84 Average: \$25.04 Experienced: \$30.14	
Personal Financial Advisors	Advise clients on financial plans utilizing knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate.	Entry: \$14.74 Average: \$33.20 Experienced: \$42.43	
 Loan Officers	Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and methods of payments.	Entry: \$14.51 Average: \$23.28 Experienced: \$27.65	
 Securities, Commodities, and Financial Services Sales Agents	Buy and sell securities in investment and trading firms, or call upon businesses and individuals to sell financial services. Provide financial services, such as loan, tax, and securities counseling. May advise securities customers about such things as stocks, bonds, and market conditions.	Entry: \$13.04 Average: \$31.61 Experienced: \$40.90	
Insurance Sales Agents	Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as independent broker, or be employed by an insurance company.	Entry: \$11.16 Average: \$22.28 Experienced: \$27.84	
Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)			
Claims Adjusters, Examiners, and Investigators	Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing collection of taxes, contract compliance of licenses and permits, and other compliance and enforcement inspection activities not classified elsewhere.	Entry: \$14.02 Average: \$20.29 Experienced: \$23.42	
New Accounts Clerks	Interview persons desiring to open bank accounts. Explain banking services available to prospective customers and assist them in preparing application form.	Entry: \$10.70 Average: \$13.04 Experienced: \$14.20	



Occupations Guide



Occupation	Description	Hourly Wages	Outlook
High School Diploma or equivalent (Moderate-term on-the-job training)			
Insurance Claims and Policy Processing Clerks	Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives.	Entry: \$10.84 Average: \$14.04 Experienced: \$15.64	
Title Examiners, Abstractors, and Searchers	Search real estate records, examine titles, or summarize pertinent legal or insurance details for a variety of purposes.	Entry: \$10.11 Average: \$13.41 Experienced: \$15.06	
Less than High School Diploma (Short-term on-the-job training)			
Loan Interviewers and Clerks	Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan.	Entry: \$10.94 Average: \$13.61 Experienced: \$14.95	
Bill and Account Collectors	Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment.	Entry: \$10.55 Average: \$13.90 Experienced: \$15.58	
Tellers	Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions.	Entry: \$9.05 Average: \$10.77 Experienced: \$11.63	



Government and Public Administration

Have you served as an officer
of a club or organization?
Do you like to plan and organize activities?



Are you interested in politics?
Would you like to work in another country?
Are rules and laws important to you?

Through the national, state, and local governments, the public can express its will and make our way of life possible. Through government, individuals can act together to accomplish what cannot be done alone. Most of these actions are carried out only by the government. For example, the federal government includes the military for protection. It also includes ambassadors who represent us in foreign countries, while Congress passes laws, and the executive branch carries out and enforces those laws. You can find almost every occupation within the government. However, this Government and Public Administration career cluster focuses on those occupations that are unique.

National Employment Outlook

Employment of social and community service managers and court, municipal, and license clerks will experience job growth that is faster than average for the 2004-2014 time period.

The employment of compliance officers, except agriculture, construction, health and safety, and transportation will be faster than average.

Occupation	Description	Hourly Wages	Outlook
Bachelor's Degree			
Social and Community Service Managers	Plan, organize, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization's budget and policies regarding participant involvement, program requirements, and benefits. Work may involve directing social workers, counselors, or probation officers.	Entry: \$14.90 Average: \$24.06 Experienced: \$28.64	
Postsecondary Education (Long-term on-the-job training or work experience in a related occupation)			
Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.	Entry: \$15.77 Average: \$22.97 Experienced: \$26.57	
Less than High School Diploma (Short-term on-the-job training)			
Court, Municipal, and License Clerks	Perform clerical duties in courts of law, municipalities, and governmental licensing agencies and bureaus. May prepare docket of cases to be called; secure information for judges and court; prepare draft agendas or bylaws for town or city council; answer official correspondence; keep fiscal records and accounts; issue licenses or permits; record data, administer tests, or collect fees.	Entry: \$11.82 Average: \$15.11 Experienced: \$16.75	